## ABSTRACT

The object of the invention is a process for the production of a molecule vector that can be used in water treatment, able to trap heavy ions, characterized in that it comprises the following stages:

- Diluting ornithine, $NH_2$-$(CH_2)_3$-$CH(NH_2)$-COOH, in water,
- Adjusting the pH to a value of between 6.5 and 7.5,
- Adding glutaraldehyde, OHC-$(CH_2)_3$-COH, and
- Awaiting the polycondensation reaction and the formation of imines, and
- Recovering the poly(ornithine-G) that is obtained.

The invention also covers the vector that is obtained and the use as heavy-ion sensors.